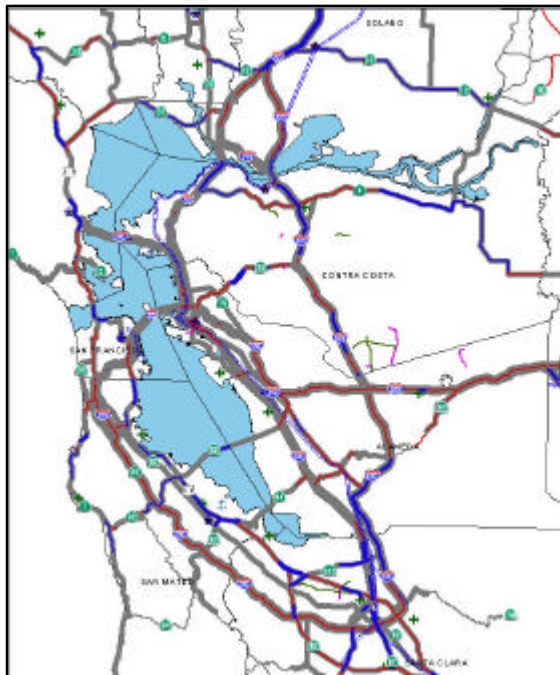


**Division of Transportation Planning  
Office of State Planning  
California Transportation Investment System (CTIS) Tool**

**FACT SHEET**

**PURPOSE:**

Using GIS software, procedures, CTIS organizes, displays, and provides basic analysis tools to show where transportation investment is currently underway (programmed) and where it will be (planned)



over the next 20 years. Included in this tool are highway, local, rail, airport, bicycle, pedestrian, and transit projects at both the State and regional levels. This sketch-level tool can assist the California Department of Transportation (Department) staff and regional agency planners to identify and assess gaps, overlaps, and inconsistencies in planned transportation projects. The Tool also provides opportunities to improve timing and coordination of projects, as well as a comprehensive visual representation of existing system plans, statewide, for input to California Transportation Plan updates.

**PROCESS:**

Information on programmed projects (projects to which funds have been committed) was taken from the California Transportation Improvement Program System (CTIPS) database, which includes State Transportation Improvement Program (STIP 2004) and State Highway and

Operations Protection Program (SHOPP 2004) projects. These data were reviewed and verified by the Department's District staff in consultation with their regional agency partners.

Planned projects were taken from approved Metropolitan and Regional Transportation Plans (1999-2003) and from several Caltrans system plans (Interregional Transportation Strategic Plan 1998 and 2001) and California Aviation System Plan (2003). District staff working with their respective regional agencies collected data on regional projects.

**BACKGROUND and PLAYERS:**

In December of 1998, as a first step in initiating the update of the California Transportation Plan, a team comprised of Department staff and regional agency partners identified the need to integrate existing long-range plans of both the State and regional transportation planning agencies by creating a map, using GIS software, of the current and resulting transportation system.



A technical advisory committee (TAC) provided suggestions on tool design and data collection process. The TAC was comprised of Regional Transportation Planning Agency (RTPA) representatives and District staff, as well as representatives from other Headquarters' programs within the Department. A policy advisory committee (PAC) provided overall project direction and scope, and included RTPA Executive Directors and Department management.

In January of 2001, the first official version (v1.1) of the California Transportation Investment System (CTIS) GIS tool was released. The current version of the tool (v.2.0) was finalized in November of 2006 and includes planned and programmed project data along with several technical enhancements.

### **OBTAINING THE TOOL:**

The CTIS tool and support documents, including a quick guide, data dictionary and hypertext Users' Guide, can be downloaded from the Department's Division of Transportation Planning website at <http://www.dot.ca.gov/hq/tpp/offices/osp/ctis.htm>. Users must have ESRI's ArcView software (version 3.1 or 3.2) to use the tool.

### **FUTURE CTIS:**

A web-based application with a central database is currently being developed. This application will greatly improve communication and facilitate the exchange of information within the Department, and with regional and local planning agencies. This application will also provide the ability to generate accurate information quickly in response to questions from the Business, Transportation and Housing Agency, the Governor, the Legislature, and the public.

The CTIS 3.0 application will be server-based and accessed through a web-browser. The end user will not require any additional software installed other than routine updates to browser software, and thus eliminating the need to purchase ArcView 3.x software licenses.

The new web-based application will be directly linked to the Department's California Transportation Improvement Program System for periodic downloads of programmed project data. This linkage will not only improve the timeliness of the CTIS project data but will also allow the Division of Programming to offer mapping of the programmed projects to all its users without needing to modify their application or to develop a separate web application.



## California Transportation Investment System (CTIS) Tool

### 2.0 TOOL OVERVIEW AND FEATURES

#### Overview

The CTIS Tool is a customized ArcView project designed to display the Planned and Programmed California Transportation Investment System (CTIS) projects. The Tool contains 10 thematic views. The CTIS program and user community developed the content and display characteristics of these views. Each view has one customized menu and five customized buttons (6 customized buttons in the Line Year Projects view).

#### The ten views are:

- Airport by Functional Class
- Existing and Planned Projects
- MPO Regions
- Non-MPO Regions
- Projects by Legislative Boundaries
- Projects by Population
- Rail

#### The project data layers and data sources:

*Planned Highway Projects* – projects on the State Highway System

Source: Regional Transportation Plans (RTPs) (latest available at time of data entry) or Caltrans Interregional Transportation Strategic Plan (ITSP)

*Programmed Highway Projects* – projects on the State Highway System

Source: STIP and SHOPP projects from Caltrans Transportation Improvement Program System database

*Local Planned Projects* – Bicycle, Pedestrian, Local Roads, and Transit projects off the State Highway System.

Source: RTPs and ITSP

*Local Programmed Projects* – Bicycle, Pedestrian, Local Roads, and Transit projects off the State Highway System

Source: STIP and SHOPP projects from Caltrans Transportation Improvement Program System database

*Planned Bike, Ped and Transit (by county seat)* – bicycle, pedestrian and transit projects with inadequate location information, but located by county with a point at the county seat

Source: RTPs and ITSP

*Programmed Bike, Ped, and Transit (by county seat)* – bicycle, pedestrian and transit projects with inadequate location information, but located by county with a point at the county seat

Source: STIP and SHOPP projects from Caltrans Transportation Improvement Program System database



*Rail Planned Projects* – planned intercity and commuter rail projects

Source: RTPs and ITSP

*Rail Programmed Projects* – programmed intercity and commuter rail projects

Source: STIP and SHOPP projects from Caltrans Transportation Improvement Program System database

*Airport Projects* – planned projects at airports.

Source: California Aviation System Plan (CASP), Capital Improvement Program

## **Customized Graphical User Interface (GUI)**

### **Customized Menu**



The customized "CTIS Views" menu allows the user to switch to a view by selecting the name of the view in the pull-down list rather than using the full-screen window that appears when the tool is first opened.



### **Customized Buttons**

The customized buttons allow the user to perform some common functions and specialized analysis of the data with the push of a single button.



#### **Open View Pick List**

The "Open View Pick List" button opens the full screen pick list that appears when the project is first opened. This button is visible on all views.



#### **Select Projects by Distance**

Clicking on this button opens a dialog box requesting input by the user. It will select Highway, Airport, Local and Rail projects that are a user specified distance (in miles) from Highway Border Crossings, Airports, Ports or Railroad Stations. The user can select a single or multiple feature(s) by holding down the shift key while selecting the desired feature(s). Clicking on the OK button closes the dialog box highlights selected projects. This button is visible on all views.



#### **Sum Project Costs**

This button generates a display of the total number and total cost of projects by theme for the geography identified by the user. The sum total at the bottom is the sum of the totals reported by category. Clicking on this button opens a dialog box requesting input by the user. The available geography is Statewide, individual CALTRANS District, individual County or individual Regional Transportation Planning Agency (RTPA). The "Unit of Analysis" is Statewide, District, County or RTPA. The Area is visible only when the unit of analysis is not statewide. The Area is a pull-down list created from the data that is populated in the database, and is relevant to the unit of analysis selected (e.g., selecting RTPA results in a full listing of the State's 44 regional transportation planning agencies). This button is visible on all views.



### **Highway Project Cost Chart**

This button displays a histogram of the summary project costs by Purpose Code for the user-defined geography. The available geography is Statewide, individual CALTRANS District, individual County or individual Regional Transportation Planning Agency (RTPA). The "Unit of Analysis" is Statewide, District, County or RTPA. The Area is visible only when the unit of analysis is not Statewide. The Area is a pull-down list created from the data that is populated in the database, and is relevant to the unit of analysis selected. This button is visible on all views.